

CLAIM AMENDMENTS

## 1. (Previously Presented)

An optical deflection device comprising:

a base member;

a polygon mirror which is formed into a regular polygon and has a reflecting surface on each peripheral end face;

a flange member which holds said polygon mirror and rotates with respect to said base member; and

a press member which presses said polygon mirror against said flange member,

wherein surface roughening is performed for at least one of a holding surface of said flange member which holds said polygon mirror and a held surface of said polygon mirror which is held by the holding surface, and the holding surface and the held surface are bonded with an adhesive,

wherein a surface roughness (Ry) of the holding surface and/or the held surface having undergone surface roughening satisfies a conditional expression:

$$3 \mu\text{m} \leq \text{Ry} \leq 20 \mu\text{m}$$

where Ry: maximum height (JIS B0601), and



## 7. (Original)

An apparatus according to claim 1, wherein said polygon mirror and said flange member are formed from aluminum.

## 8. (Previously Presented)

An optical deflection device manufacturing method comprising the steps of:

integrally fitting a flange member on a bearing;

performing flat work for a holding surface of the flange member arranged to hold a polygon mirror having a plurality of reflecting surfaces so as to become a surface perpendicular to an axis of rotation of the bearing;

performing surface roughening for the holding surface of the flange member;

applying an adhesive between the holding surface of the flange member and a held surface of the polygon mirror held by the holding surface; and

mounting a press member which presses and biases the polygon mirror against the flange member, wherein a surface roughness ( $R_y$ ) of the holding surface having undergone surface roughening satisfies a conditional expression:

$$3 \mu\text{m} \leq R_y \leq 20 \mu\text{m}$$

where  $R_y$ : maximum height (JIS B0601), and



wherein the adhesive has a Young's modulus of not more than 1700 MPa at 25°C.

9. (Original)

A method according to claim 8, wherein the surface roughening includes abrasive blasting.

10. (Canceled)

11. (Previously Presented)

A method according to claim 8, wherein the adhesive has a Young's modulus of not more than 1,144 MPa at 25°C.

12. (Original)

A method according to claim 8, wherein the polygon mirror is rotated at a rotational speed of not less than 50,000 rpm.

13. (New)

An optical deflection device manufacturing method comprising the steps of:

integrally fitting a flange member on a bearing;



performing flat work for a holding surface of the flange member arranged to hold a polygon mirror on a held surface of the polygon mirror, the polygon mirror having a plurality of reflecting surfaces so as to become a surface perpendicular to an axis of rotation of the bearing;

performing surface roughening for the held surface of the polygon mirror;

applying an adhesive between the holding surface of the flange member and the held surface of the polygon mirror held by the holding surface; and

mounting a press member which presses and biases the polygon mirror against the flange member, wherein a surface roughness ( $R_y$ ) of the held surface having undergone surface roughening satisfies a conditional expression:

$$3 \mu\text{m} \leq R_y \leq 20 \mu\text{m}$$

where  $R_y$ : maximum height (JIS B0601), and

wherein the adhesive has a Young's modulus of not more than 1700 MPa at 25°C.

14. (New)

A method according to Claim 13, wherein the surface roughening includes abrasive blasting.



15. (New)

A method according to claim 13, wherein the adhesive has a Young's modulus of not more than 1,144 MPa at 25°C.

16. (New)

A method according to claim 13, wherein the polygon mirror is rotated at a rotational speed of not less than 50,000 rpm.